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10/591,054	04/05/2007	Tadashi Fujii	FUJII9	4828

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EXAMINER	
ROYSTON, ELIZABETH	

ART UNIT	PAPER NUMBER
1791	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/591,054	FUJII ET AL.	
	Examiner	Art Unit	
	Elizabeth Royston	1791	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *12 March 2010*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *14-29* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *14-29* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claims 18 and 19 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Although the specification provides support for uniform resin thickness (paragraph 38), there is no support for the "uniform" width of the edge resin.

3. Claims 20 and 21 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Although the specification provides support for the cross section of the lower part of each duct be rectangular (paragraph 9), there is no support for the entirety of the broadly claimed “melt supply duct” being rectangular.

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 18 and 19 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Specifically, since the cross section constitutes a 2-D surface, it is unclear in which direction the term “width” applies with regard to the edge-forming thermoplastic resin. Additionally, depending on the intended directionality, it is unclear if by “width" Applicant means, for example, the positioning and dimensionality of delta in figures 3 and 4 remains constant, or is perhaps instead intending to define the scenario presented in figure 5. For purposes of examination, the term “width” is interpreted to read on the length of the film 20B as presented in figure 5, with respect to the length of the film 20A.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

7. The factual inquiries set forth in *Graham* v. *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.

2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

8. Claim 14, 18, and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Peiffer (US PN 5716570) in view of Komoda (US PN 4476080).

With regard to claim 14, Peiffer teaches a method for producing a multilayered unstretched film comprising heating and melting a first thermoplastic resin in a first extruder (figure 3, EXTR. 1), heating an melting an edge-forming thermoplastic resin in another extruder (figure 3, EXTR. 2), feeding the first heated and melted thermoplastic resin through a first melt supply duct, conveying the heated and melted edge-forming thermoplastic resin to a feed block (figure 3, item 6) through two other melt supply ducts, leading the edge-forming thermoplastic resin to both sides of the first thermoplastic resin through a first hole (figure 3, the intersection of the other two melt supply ducts for EXTR. 2 with feed block 6), wherein the first hole is formed on both sides of the lower part of the melt supply duct, and which holes are connected to the end of the other two melt supply ducts, widening the so-formed combination of the first thermoplastic resin and the edge-forming thermoplastic resin in a first manifold (figure 3, region of item 8), ejecting the thermoplastic resins through a die lip of a T-die (figure 3, item 8) onto a casting roll disposed below the T-die (col. 7, line 37-38).

Peiffer does not explicitly disclose heating and melting a second thermoplastic resin in a second extruder, leading the edge-forming thermoplastic resin to both sides of the second thermoplastic resin through a second hole, widening the second side-by-side combination of the second thermoplastic resin and the edge forming thermoplastic

resin for edge part in a second manifold, or combining widened thermoplastic resins at a location immediately above a T-die and laminating the thermoplastic resins.

Komoda teaches heating and melting a second thermoplastic resin (col. 4, line 35, item 61) in a second extruder (item 11), leading the edge-forming thermoplastic resin (col. 4, line 45, item 62) to both sides of the second thermoplastic resin through a second hole (item 32A), widening the second side-by-side combination of the second thermoplastic resin and the edge forming thermoplastic resin for edge part in a second manifold (figure 2-3, section 43; col. 2, line 18-20), and combining the widened thermoplastic resins at a location immediately above a die (figures 2-3, items 43, 44; col. 4, line 24-28) and laminating the thermoplastic resins (figure 6).

Since Peiffer teaches heating and melting a thermoplastic resin in an extruder, leading an edge-forming thermoplastic resin to both sides of the thermoplastic resin through a hole, and widening the side-by-side combination of the thermoplastic resin and the edge forming thermoplastic resin for edge part in a manifold, and since Komoda teaches that it was known in the art at the time of the invention to edge thermoplastic resins with other thermoplastic resins, widen multiple layers of thermoplastic resins, and extrude the layers through a die in order to form a multilayered sheet, it would have been obvious to one of ordinary skill in the art at the time of the invention to duplicate the parts in the teaching of Peiffer so as to achieve multilayered extruded sheets.

It would have been obvious to one of ordinary skill in the art at the time of the invention to use the technique in the teaching of Komoda with the process in the teaching of Peiffer. The rationale to do so would have been the motivation provided by -

the teaching of Komoda, that to use such a system predictably results in the successful formation of multilayered multicomponent films (figure 6) comprising multiple resins with different desirable proprieties (col. 1, line 24-31), solving the problem of forming films from resins with varying (col. 1, line 58-63) and sometimes low (col. 1, line 14) thermal decomposition temperatures.

With regard to claims 18 and 19, Peiffer teaches the cross section of the edge-forming thermoplastic resin with uniform width (figure 3, item A12).

9. Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Peiffer (US PN 5716570) in view of Komoda (US PN 4476080), as applied for claim 14 above, and in further view of Cloren (US PN 4152387).

With regard to claim 16, Peiffer does not explicitly disclose at least one further extruder, melt supply duct, hole, or manifold, or the process associated therewith.

However, it would have been obvious to one of ordinary skill in the art at the time of the invention to duplicate the extruder, melt supply duct, hole, manifold, and the process associated therewith in the teaching of Peiffer in view of Komoda, if such a three layered laminate was desired.

Alternatively, Cloren teaches at least one further extruder, melt supply duct, and manifold (figure 3; col. 7, line 50-58; col. 8, line 42).

It would have been obvious to one of ordinary skill in the art at the time of the invention to include at least one further extruder, melt supply duct, and manifold in the

process of Peiffer in view of Komoda. The rationale to do so would have been the motivation provided by the teaching of Cloren, that to use at least one further extruder, melt supply duct, and manifold predictably results in the successful formation of multi-layered resin laminates with adjustable layer properties (col. 2, line 57-63).

Although Cloren does not explicitly disclose at least one further hole, using the at least one further extruder, melt supply duct, and manifold of Cloren in the process of Peiffer in view of Komoda would have intrinsically required at least one further hole in order to successfully create the resin layer as in the teaching of Peiffer in view of Komoda.

10. Claims 20, 21, 24, and 25, and in the alternative claims 18 and 19, are rejected under 35 U.S.C. 103(a) as being unpatentable over Peiffer (US PN 5716570) in view of Komoda (US PN 4476080) and Cloren (US PN 4152387), as applied for claims 14 and 16 above, and in further view of Wenz (US PN 4731004).

With regard to claims 20 and 21, and in the alternative claims 18 and 19, Peiffer does not explicitly disclose rectangular supply ducts and holes.

Wenz teaches that using rectangular supply ducts and holes when making multicomponent thermoplastic sheets was known in the art the time of the invention (Wenz: col. 3, line 4-7; figure 9a, item 62, 64, 66, and 68).

It would have been obvious to one of ordinary skill in the art at the time of the invention to use rectangular supply ducts and holes as in the teaching of Wenz in the process of Peiffer in view of Komoda and Cloren. The rationale to do so would have

been the motivation provided by the teaching of Wenz, that to use such rectangular shapes predictably results in the formation of a film with controlled overlap of the resins (col. 3, line 30-42).

With regard to claims 24 and 25, Peiffer does not explicitly disclose the edge-forming thermoplastic resin is a colored thermoplastic resin.

Wenz teaches that a colored thermoplastic resin edge was known in the art at the time of the invention (col. 9, line 37-40; col. 10, line 1-5; figure 11).

It would have been obvious to one of ordinary skill in the art at the time of the invention to use a colored thermoplastic resin as in the teaching of Wenz in the process in the teaching of Peiffer in view of Komoda and Cloren. The rationale to do so would have been the motivation provided by the teaching of Wenz, that to have such a colored thermoplastic resin predictably results in the formation of colored plastic areas within thermoplastic resin sheets that are useful for backgrounds (col. 9, line 40-43).

11. Claims 22 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Peiffer (US PN 5716570) in view of Komoda (US PN 4476080) and Cloren (US PN 4152387), as applied for claims 14 and 16 above, and in further view of Okazaki (US PN 5389422).

With regard to claims 22 and 23, Peiffer does not explicitly teach the physical properties of the multiple resins.

Okazaki teaches that when making laminated thermoplastic resin films, the difference between the melt viscosities of the thermoplastic resins should be less than 2000 poise (col. 14, line 40), as measured at a shear rate of 200 sec^{-1} (col. 20, line 8-9).

It would have been obvious to one of ordinary skill in the art at the time of the invention to keep the melt viscosities of the various resins in the teaching of Peiffer in view of Komodo within 2000 poise as measured at a shear rate of 200 sec^{-1}. The rationale to do so would have been the motivation provided by the teaching of Okazaki, that to keep the melt viscosities within such a range when measured at such a shear rate predictably results in the formation of a film with a stable surface without irregularities in width (col. 14, line 40-43).

12. Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Peiffer (US PN 5716570) in view of Komoda (US PN 4476080) and Mori (JP 2003-291258).

With regard to claim 15, Peiffer teaches a method for producing a multilayered unstretched film comprising heating and melting a first thermoplastic resin in a first extruder (figure 3, EXTR. 1), heating an melting an edge-forming thermoplastic resin in another extruder (figure 3, EXTR. 2), feeding the first heated and melted thermoplastic resin through a first melt supply duct, conveying the heated and melted edge-forming thermoplastic resin to a feed block (figure 3, item 6) through two other melt supply ducts, leading the edge-forming thermoplastic resin to both sides of the first thermoplastic resin through a first hole (figure 3, the intersection of the other two melt

supply ducts for EXTR. 2 with feed block 6), wherein the first hole is formed on both sides of the lower part of the melt supply duct, and which holes are connected to the end of the other two melt supply ducts, widening the so-formed combination of the first thermoplastic resin and the edge-forming thermoplastic resin in a first manifold (figure 3, region of item 8), ejecting the thermoplastic resins through a die lip of a T-die (figure 3, item 8).

Peiffer does not explicitly disclose heating and melting a second thermoplastic resin in a second extruder, leading the edge-forming thermoplastic resin to both sides of the second thermoplastic resin through a second hole, widening the second side-by-side combination of the second thermoplastic resin and the edge forming thermoplastic resin for edge part in a second manifold, or combining widened thermoplastic resins at a location immediately above a T-die and laminating the thermoplastic resins.

Komoda teaches heating and melting a second thermoplastic resin (col. 4, line 35, item 61) in a second extruder (item 11), leading the edge-forming thermoplastic resin (col. 4, line 45, item 62) to both sides of the second thermoplastic resin through a second hole (item 32A), widening the second side-by-side combination of the second thermoplastic resin and the edge forming thermoplastic resin for edge part in a second manifold (figure 2-3, section 43; col. 2, line 18-20), and combining the widened thermoplastic resins at a location immediately above a die (figures 2-3, items 43, 44; col. 4, line 24-28) and laminating the thermoplastic resins (figure 6).

Since Peiffer teaches heating and melting a thermoplastic resin in an extruder, leading an edge-forming thermoplastic resin to both sides of the thermoplastic resin

through a hole, and widening the side-by-side combination of the thermoplastic resin and the edge forming thermoplastic resin for edge part in a manifold, and since Komoda teaches that it was known in the art at the time of the invention to edge thermoplastic resins with other thermoplastic resins, widen multiple layers of thermoplastic resins, and extrude the layers through a die in order to form a multilayered sheet, it would have been obvious to one of ordinary skill in the art at the time of the invention to duplicate the parts in the teaching of Peiffer so as to achieve multilayered extruded sheets.

It would have been obvious to one of ordinary skill in the art at the time of the invention to use the technique in the teaching of Komoda with the process in the teaching of Peiffer. The rationale to do so would have been the motivation provided by - the teaching of Komoda, that to use such a system predictably results in the successful formation of multilayered multicomponent films (figure 6) comprising multiple resins with different desirable proprieties (col. 1, line 24-31), solving the problem of forming films from resins with varying (col. 1, line 58-63) and sometimes low (col. 1, line 14) thermal decomposition temperatures.

Peiffer in view of Komoda does not explicitly disclose ejecting the laminated thermoplastic resin onto a metal sheet disposed below the T-die.

Mori teaches multilayered (human translation, paragraph 36, film A, layer I and II) multicomponent (human translation, paragraph 36 and 37, films A and B, material of layers I and II and olefin monomer material of edge portions) laminated thermoplastic resin onto a metal sheet (paragraph 23) disposed below the T-die (paragraph 18, line 2)

It would have been obvious to one of ordinary skill in the art at the time of the invention to coat a metal sheet as in the teaching of Mori with the laminate in the teaching of Peiffer in view of Komoda. The rationale to do so would have been the motivation provided by the teaching of Mori, that to coat such a metal sheet predictably results in the formation of metal sheets that are suitable for use in metal cans (paragraph 1).

13. Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Peiffer (US PN 5716570) in view of Komoda (US PN 4476080) and Mori (JP 2003-291258), as applied for claim 15 above, and in further view of Cloren (US PN 4152387).

With regard to claim 17, Peiffer does not explicitly disclose at least one further extruder, melt supply duct, hole, or manifold, or the process associated therewith.

However, it would have been obvious to one of ordinary skill in the art at the time of the invention to duplicate the extruder, melt supply duct, hole, manifold, and the process associated therewith in the teaching of Peiffer in view of Komodo and Mori, if such a three layered laminate was desired.

Alternatively, Cloren teaches at least one further extruder, melt supply duct, and manifold (figure 3; col. 7, line 50-58; col. 8, line 42).

It would have been obvious to one of ordinary skill in the art at the time of the invention to include at least one further extruder, melt supply duct, and manifold in the process of Peiffer in view of Komodo and Mori. The rationale to do so would have been the motivation provided by the teaching of Cloren, that to use at least one further

extruder, melt supply duct, and manifold predictably results in the successful formation of multi-layered resin laminates with adjustable layer properties (col. 2, line 57-63).

Although Cloren does not explicitly disclose at least one further hole, using the at least one further extruder, melt supply duct, and manifold of Cloren in the process of Peiffer in view of Komodo and Mori would have intrinsically required at least one further hole in order to successfully create the resin layer as in the teaching of Peiffer in view of Komodo and Mori.

14. Claims 26 and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Peiffer (US PN 5716570) in view of Komoda (US PN 4476080), Mori (JP 2003-291258), and Cloren (US PN 4152387), as applied for claims 15 and 17 above, and in further view of Okazaki (US PN 5389422).

With regard to claim 26, Peiffer does not explicitly teach the physical properties of the multiple resins.

Okazaki teaches that when making laminated thermoplastic resin films, the difference between the melt viscosities of the thermoplastic resins should be less than 2000 poise (col. 14, line 40), as measured at a shear rate of 200 sec^{-1} (col. 20, line 8-9).

It would have been obvious to one of ordinary skill in the art at the time of the invention to keep the melt viscosities of the various resins in the teaching of Peiffer in view of Komodo, Mori, and Cloren within 2000 poise as measured at a shear rate of 200 sec^{-1}. The rationale to do so would have been the motivation provided by the teaching

of Okazaki, that to keep the melt viscosities within such a range when measured at such a shear rate predictably results in the formation of a film with a stable surface without irregularities in width (col. 14, line 40-43).

15. Claims 28 and 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Peiffer (US PN 5716570) in view of Komoda (US PN 4476080), Mori (JP 2003-291258), and Cloren (US PN 4152387), as applied for claims 15 and 17 above, and in further view of Wenz (US PN 4731004).

With regard to claims 24 and 25, Peiffer does not explicitly disclose the edge-forming thermoplastic resin is a colored thermoplastic resin.

Wenz teaches that a colored thermoplastic resin edge was known in the art at the time of the invention (col. 9, line 37-40; col. 10, line 1-5; figure 11).

It would have been obvious to one of ordinary skill in the art at the time of the invention to use a colored thermoplastic resin as in the teaching of Wenz in the process in the teaching of Peiffer in view of Komoda and Cloren. The rationale to do so would have been the motivation provided by the teaching of Wenz, that to have such a colored thermoplastic resin predictably results in the formation of colored plastic areas within thermoplastic resin sheets that are useful for backgrounds (col. 9, line 40-43).

Response to Arguments

16. Applicant's arguments filed 3/12/2010 have been fully considered but they are not persuasive.

Applicant's amendment necessitated the new grounds of rejection presented in this Office action.

Conclusion

17. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Elizabeth Royston whose telephone number is 571-270-7654. The examiner can normally be reached on M-Th 8:00am - 5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Christina Johnson can be reached on (571) 272-1176. The fax phone

number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/E. R./
Examiner, Art Unit 1791

/Christina Johnson/
Supervisory Patent Examiner, Art Unit 1791